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National trends in hospitalization and mortality rates for patients with HIV, HCV, or HIV/HCV coinfection from 1996–2010 in the United States: a cross-sectional study

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Abstract

Background: The comparative impact of chronic viral monoinfection versus coinfection on inpatient outcomes and health care utilization is relatively unknown. This study examined trends, inpatient utilization, and hospital outcomes for patients with HIV, HCV, or HIV/HCV coinfection.

Methods: Data were from the 1996–2010 National Hospital Discharge Surveys. Hospitalizations with primary ICD-9-CM codes for HIV or HCV were included for HIV and HCV monoinfection, respectfully. Coinfection included both HIV and HCV codes. Demographic characteristics, select comorbidities, procedural interventions, average hospital length of stay (LOS), and discharge status were compared by infection status (HIV, HCV, HIV/HCV). Annual disease estimates and survey weights were used to generate hospitalization rates.

Results: ~6.6 million hospitalizations occurred in patients with HIV (39%), HCV (56%), or HIV/HCV (5%). The hospitalization rate (hospitalizations per 100 persons with infection) decreased in the HIV group (29.8 in 1996; 5.3 in 2010), decreased in the HIV/HCV group (2.0 in 1996; 1.5 in 2010), yet increased in the HCV group (0.2 in 1996; 0.9 in 2010). Median LOS from 1996 to 2010 (days, interquartile range) decreased in all groups: HIV, 6 (3–10) to 4 (3–8); HCV, 5 (3–9) to 4 (2–6); HIV/HCV, 6 (4–11) to 4 (2–7). Age-adjusted mortality rates decreased for all three groups. The rate of decline was least pronounced for those with HCV monoinfection.

Conclusion: Hospitalizations have declined more rapidly for patients with HIV infection (including HIV/HCV coinfection) than for patients with HCV infection. This growing disparity between HIV and HCV underscores the need to allocate more resources to HCV care in hopes that similar large-scale improvements can also be accomplished for patients with HCV.

Keywords: HIV, HCV, Coinfection, Hospitalization, Health care utilization

Background

Human Immunodeficiency Virus (HIV) monoinfection and hepatitis C virus (HCV) monoinfection have been the subject of much research over the past two decades; however, HIV/HCV coinfection is a growing medical concern in the U.S. [1]. Combination HIV antiretroviral therapy and combination HCV antiviral therapy have been recommended since the 1990s, as the respective treatment regimens greatly reduce patient morbidity and mortality [2,3]. While HIV antiretroviral and HCV antiviral therapies are widely recommended for use in patients with HIV/HCV coinfection [4], these patients continue to experience poorer health outcomes than their counterparts with monoinfection. For instance, in the inpatient setting, patients with coinfection are at increased risk for accelerated progression of liver disease and increased rates of morbidity and mortality, as compared to patients with HIV or HCV monoinfection [5,6].

However, since these combination therapies became available, few studies have documented how health care utilization patterns differ for patients with coinfection

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